

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-023836**Date Inspected:** 28-Apr-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** An Qing Xiang**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Components**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance (QA) Inspector, Anand Upadhye was present during the times noted above for observations relative to the work being performed.

NDT

Outside Yard – OBG Trial Assembly

The following Non Destructive Testing (NDT) inspection carried out as per the ZPMC submitted notification number 08968.

Magnetic Particle Testing (MT).

This QA inspector performed MT of approximately 15 % of the area previously tested and accepted by ZPMC Quality control personnel. This QA inspector generated MT report for this date. The members are identified as OBG Components. The weld designations reviewed are as follows:

FB3139-001- 053, 054, 055, 056, 025, 026, 027, 028.

FB3143-001- 053, 054, 055, 056, 025, 026, 027, 028.

**WELDING**

This QA Inspector observed the following work in progress:

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### Outside Yard – OBG Trial Assembly

This QA Inspector observed ZPMC qualified welding personnel identified as 067949 perform welding by Flux Cored Arc Welding (FCAW), on Deck panel diaphragm to Floor beam weld at Panel Point 128.3 of OBG Segment 14W. Weld joint is identified as SEG3020E-001. ZPMC Quality Control (QC) Inspector identified as Zhu Lin was present to monitor the welding process. The welding variables recorded by ZPMC QC appeared to be in general compliance with WPS-B-T-2232-ESAB. This QA Inspector noted welding variables were 285~300 amperes and 25.4 volts, which appears to be in compliance with the approved WPS.

This QA Inspector observed ZPMC qualified welding personnel identified as 067103 perform welding by Flux Cored Arc Welding (FCAW), on Deck panel diaphragm to Floor beam weld at Panel Point 128.3 of OBG Segment 14W. Weld joint is identified as SEG3020D-038. ZPMC Quality Control (QC) Inspector identified as Zhu Lin was present to monitor the welding process. The welding variables recorded by ZPMC QC appeared to be in general compliance with WPS-B-T-2232-ESAB. This QA Inspector noted welding variables were 285~300 amperes and 25.6 volts, which appears to be in compliance with the approved WPS. See attached picture.

This QA Inspector observed ZPMC qualified welding personnel identified as 066695 perform welding by Flux Cored Arc Welding (FCAW), on Floor beam to Sub assembly part SA8509 weld at Panel Point 128.7 of OBG Segment 14W. Weld joint is identified as SEG3020C-057. ZPMC Quality Control (QC) Inspector identified as Zhu Lin was present to monitor the welding process. The welding variables recorded by ZPMC QC appeared to be in general compliance with WPS-B-T-2232-ESAB. This QA Inspector noted welding variables were 280~300 amperes and 25.2 volts, which appears to be in compliance with the approved WPS.

This QA Inspector observed ABF qualified NDT personnel perform Magnetic Particle Testing on Bottom Plates of OBG Segment 14W, at locations from where temporary attachments were removed. The Bottom Plates were identified as BP3087 ~ BP3094 between Panel point 125 to Panel point 128.7. Linear indications were found on some locations. This QA Inspector informed ZPMC CWI identified as An Qing Xiang of the issue. An Qing Xiang informed this QA that the indications shall be removed in a manner compliant with the contract documents prior to welding. See attached pictures.

This QA Inspector observed ZPMC qualified welding personnel identified as 066361 perform welding by Shielded Metal Arc Welding (SMAW), on Bottom Plates of OBG Segment 14W, at locations from where temporary attachments were removed. The Bottom Plates were identified as BP3087 ~ BP3094 between Panel point 125 to Panel point 128.7. ZPMC Quality Control (QC) Inspector identified as An Qing Xiang was present to monitor the welding process. The welding variables recorded by ZPMC QC appeared to be in general compliance with WPS-345-SMAW-4G (4F)-FCM-Repair-1 and Welding repair report B-WR20850. This QA Inspector noted welding variables were 145~160 amperes and 24.7 volts, which appears to be in compliance with the approved WPS.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

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## WELDING INSPECTION REPORT

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### Summary of Conversations:

No significant conversations were reported on this date.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang, phone: 15000422372 , who represents the Office of Structural Materials for your project.

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**Inspected By:** Upadhye, Anand

Quality Assurance Inspector

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**Reviewed By:** Clifford, William

QA Reviewer